

**AFFIDAVIT OF HUBBARD, LERH, AND WILLIG
CC DOCKET NO. 96-98**

“Deregulation: Ideology or Logic?”	1981
FTC Seminar on Antitrust Analysis	
“Viewpoints on Horizontal Mergers	1982
“Predation as a Tactical Inducement for Exit”	1980
NBER Conference on Industrial Organization and Public Policy	
“An Economic Definition of Predation”	1980
The Center for Advanced Studies in Managerial Economics Conference on The Economics of Telecommunication	
“Pricing Local Service as an Input”	1980
Aspen Institute Conference on the Future of the Postal Service	
“Welfare Economics of Postal Pricing”	1979
Department of Justice Antitrust Seminar	
“The Industry Performance Gradient Index”	1979
Eastern Economic Association Convention	
“The Social Performance of Deregulated Markets for Telecommunications Services”	1979
Industry Workshop Association Convention	
“Customer Equity and Local Measured Service”	1979
Symposium on Ratemaking Problems of Regulated Industries	
“Pricing Decisions and the Regulatory Process”	1979
Woodrow Wilson School Alumni Conference	
“The Push for Deregulation”	1979
NBER Conference on Industrial Organization	
“Intertemporal Sustainability”	1979
World Congress of the Econometric Society	
“Theoretical Industrial Organization”	1980
Institute of Public Utilities Conference on Current Issues in Public Utilities Regulation	
“Network Access Pricing”	1978
ALI-ABA Conference on the Economics of Antitrust	
“Predatoriness and Discriminatory Pricing”	1978
AEI Conference on Postal Service Issues	

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“What Can Markets Control?”	1978
University of Virginia Conference on the Economics of Regulation “Public Interest Pricing”	1978
DRI Utility Conference “Marginal Cost Pricing in the Utility Industry: Impact and Analysis”	1978
International Meeting of the Institute of Management Sciences “The Envelope Theorem”	1977
University of Warwick Workshop on Oligopoly “Industry Performance Gradient Indexes”	1977
North American Econometric Society Convention “Intertemporal Sustainability”	1979
“Social Welfare Dominance”	1978
“Economies of Scope, DAIC, and Markets with Joint Production”	1977
Telecommunications Policy Research Conference “Transition to Competitive Markets”	1986
“InterLATA Capacity Growth, Capped NTS Charges and Long Distance Competition”	1985
“Market Power in The Telecommunications Industry”	1984
“FCC Policy on Local Access Pricing”	1983
“Do We Need a Regulatory Safety Net in Telecommunications?”	1982
“Anticompetitive Vertical Conduct”	1981
“Electronic Mail and Postal Pricing”	1980
“Monopoly, Competition and Efficiency”: Chairman	1979
“A Common Carrier Research Agenda”	1978
“Empirical Views of Ramsey Optimal Telephone Pricing”	1977
“Recent Research on Regulated Market Structure”	1976
“Some General Equilibrium Views of Optimal Pricing”	1975
National Bureau of Economic Research Conference on Theoretical Industrial Organization Discussion of “Compensating Variation as a Measure of Welfare Change”	1976
Conference on Pricing in Regulated Industries: Theory & Application “Ramsey Optimal Pricing of Long Distance Telephone Services”	1977
NBER Conference on Public Regulation “Income Distributional Concerns in Regulatory Policy-Making”	1977
Allied Social Science Associations National Convention “Merger Guidelines and Economic Theory”	1990

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Discussion of "Competitive Rules for Joint Ventures"	1989
"New Schools in Industrial Organization"	1988
"Industry Economic Analysis in the Legal Arena"	1987
"Transportation Deregulation"	1984
Discussion of "Pricing and Costing of Telecommunications Services"	1983
Discussion of "An Exact Welfare Measure"	1982
"Optimal Deregulation of Telephone Services"	1982
"Sector Differentiated Capital Taxes"	1981
"Economies of Scope"	1980
"Social Welfare Dominance"	1980
"The Economic Definition of Predation"	1979
Discussion of "Lifeline Rates, Succor or Snare?"	1979
"Multiproduct Technology and Market Structure"	1978
"The Economic Gradient Method"	1978
"Methods for Public Interest Pricing"	1977
Discussion of "The Welfare Implications of New Financial Instruments"	1976
"Welfare Theory of Concentration Indices"	1976
Discussion of "Developments in Monopolistic Competition Theory"	1976
"Hedonic Price Adjustments"	1975
"Public Good Attributes of Information and its Optimal Pricing"	1975
"Risk Invariance and Ordinally Additive Utility Functions"	1974
"Consumer's Surplus: A Rigorous Cookbook"	1974
University of Chicago Symposium on the Economics of Regulated Public Utilities	
"Optimal Prices for Public Purposes"	1976
American Society for Information Science	
"The Social Value of Information: An Economist's View"	1975
Institute for Mathematical Studies in the Social Sciences Summer Seminar	
"The Sustainability of Natural Monopoly"	1975
U.S.-U.S.S.R. Symposium on Estimating Costs and Benefits of Information Services	
"The Evaluation of the Economic Benefits of Productive Information"	1975
NYU-Columbia Symposium on Regulated Industries	
"Ramsey Optimal Public Utility Pricing"	1975

Research Seminars:

Bell Communications Research (2)	University of California, San Diego
Bell Laboratories (numerous)	University of Chicago
Department of Justice (3)	University of Delaware

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Electric Power Research Institute
Federal Reserve Board
Federal Trade Commission (4)
Mathematica
Rand
World Bank (3)
Carleton University
Carnegie-Mellon University
Columbia University (4)
Cornell University (2)
Georgetown University
Harvard University (2)
Hebrew University
Johns Hopkins University (2)
M. I. T. (4)
New York University (4)
Northwestern University (2)
Norwegian School of Economics and
Business Administration

University of Florida
University of Illinois
University of Iowa (2)
Universite Laval
University of Maryland
University of Michigan
University of Minnesota
University of Oslo
University of Pennsylvania (3)
University of Toronto
University of Virginia
University of Wisconsin
University of Wyoming
Vanderbilt University
Yale University (2)
Princeton University (many)
Rice University
Stanford University (5)
S.U.N.Y. Albany

D

In the Matter of

CC Docket No. 96-98

EXHIBIT D

Filed May 26, 1999

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DOCKET NO. 96-98

I. INTRODUCTION

1. Our names are John C. Klick and Brian F. Pitkin. We are employed by Klick, Kent & Allen / FTI Consulting, Inc. ("KK&A"), an economic and financial consulting firm specializing in cost analysis. Our business address is 66 Canal Center Plaza, Suite 670, Alexandria, Virginia 22314. Our backgrounds and qualifications are included as Attachments 1 and 2 to this affidavit.

2. During the past several years, KK&A has assisted AT&T and MCIWorldCom in analyzing and presenting cost evidence in numerous proceedings arising out of the Telecommunications Act of 1996. We have sponsored HAI Model costs for unbundled network element ("UNE") and universal service fund ("USF") proceedings in numerous states. We have reviewed and critiqued cost studies submitted by Bell Atlantic, GTE, Pacific Bell and Southwestern Bell in over a dozen jurisdictions, and provided critiques of the Benchmark Cost Proxy Model ("BCPM") in nearly twenty states. In addition, we have conducted a series of "cross-model" comparisons to help identify for several state commissions the ways in which various models (*e.g.*, HAI Model, BCPM, RLCAP) develop costs and the input variables to which they are particularly sensitive.

3. KK&A also was involved in developing the Collocation Cost Model for MCIWorldCom and AT&T. We have provided testimony on this Model in several states, including California, Florida, Georgia, and New York.

4. KK&A also has considerable experience with long-run, forward-looking costs in other "network industries," including the railroad, trucking, pipeline, and postal industries.

5. We have been asked by AT&T to evaluate the Telcomp© Model ("TM") developed by Strategic Policy Research, Inc. ("SPR"). The TM was referenced initially in an Ex

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Parte filing made by BellSouth on February 16, 1999 in CC Docket No. 98-141 and CC Docket No. 98-184 ("February Ex Parte").¹ According to SPR, the TM is intended to demonstrate that CLECs could profitably enter the local exchange market in the Atlanta LATA by deploying their own switches, and purchasing and combining UNEs for the loop, transport, and other elements. However, our review demonstrates that significant flaws in the TM cause it to reach this conclusion erroneously – and that when even a few of these flaws are corrected, SPR's proffered conclusion is reversed.

6. First, the TM does not realistically reflect the costs or revenues that would be experienced by CLECs seeking to enter the local exchange market.

7. Second, although SPR claims that the TM is "conservative," the model relies upon numerous inappropriate representations of how competitive markets would work. Furthermore, the use of the Atlanta LATA as a "test market" is clearly *not* conservative. Results for the Atlanta LATA clearly cannot be extrapolated to other local exchange markets within BellSouth or any other area of the country.

8. Third, the TM incorporates several serious flaws that cause it to substantially overstate the returns that would be available to CLECs under the circumstances postulated. When only a few of these errors are corrected, it becomes clear that CLECs cannot profitably

¹ BellSouth originally filed the Telcomp© Model with the FCC Office of Plans and Policy on February 11, 1999 and subsequently filed the Model with the Secretary of the FCC on February 16, 1999. According to a news release, the Telcomp© Model was placed in the public record on February 21, 1999. Version 1.1 of the Telcomp© Model was released on March 3, 1999, version 1.2 was released shortly afterwards (on March 12, 1999), and the most recent version, version 1.3, was released on March 26, 1999. As we discuss in more detail below, versions 1.2 and 1.3 both reflect *significant* changes – in inputs, assumptions, and results – from the version in effect immediately before.

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enter the local exchange market in the Atlanta LATA – a conclusion that logically can be extended to most other local exchange markets around the country.

9. Fourth, many of the key inputs to the TM rely on data that allegedly have been provided to SPR by BellSouth, but which are unavailable for review by the Commission or other potential users of this model. Without access to these data, it is impossible to fully evaluate the TM. Nevertheless, many indicators exist that the data inputs to the model are flawed and lead to inaccurate conclusions.

10. Based upon our analysis, the TM's major deficiencies are that it:

- overstates revenues that a CLEC could reasonably achieve by, among other things, assuming the continuance of prices at current levels rather than reflecting downward trends that can be reasonably anticipated in a newly-opened competitive market;
- excludes, or inadequately reflects, the true extent of numerous costs that a CLEC would incur in entering the local exchange business, thereby overstating potential profitability;
- incorporates an unrealistic positive terminal value of the CLEC assets in place at the end of the model's time horizon – when it is questionable whether *any* terminal value is appropriate – thereby understating the costs that would have to be recovered during the TM's study period;
- understates the amount of non-recurring charges ("NRCs") and investment that a CLEC would be required to pay; and
- contains numerous calculation errors that overstate the internal rate of return.

Our overall conclusion is that the TM is so unrealistic that it cannot be relied upon to evaluate the potential profitability of market entry, whether in the Atlanta LATA or anywhere else throughout the country. Given the fatal flaws inherent in the model, the TM cannot support the claims made by SPR and BellSouth that new entrants possess the ability to enter profitably local exchange markets using self-provisioned local switching.

11. Our affidavit is organized as follows. In Section II, we provide a

brief overview of the TM's flawed theoretical and structural framework. In Section III, we address many obvious conceptual deficiencies in the model, and explain why the TM fails to reflect realistically the environment that CLECs face in attempting to enter local markets. In Section IV, we identify several logical errors in the way that SPR has constructed the TM. In Section V, we describe numerous errors in the inputs used by the TM that, due to the nature of the errors, simply serve to overstate the calculated profitability of entry generated by the model. Finally, in Section VI, we make limited modifications to TM to address some of the errors identified and demonstrate that its proffered conclusions are false.²

II. OVERVIEW OF THE TELCOMP© MODEL

12. The TM calculates the revenues, costs, and profits associated with entry into the Atlanta LATA, assuming that a CLEC (AT&T or MCIWorldCom) will do the following:

- lease loops, multiplexing, and cross-connects from BellSouth;
- lease POT bays and cageless, passive collocation space in each of BellSouth's 108 central offices ("COs") in the Atlanta LATA, using CLEC-owned DSX frames;
- lease dedicated transport to connect each passive collocation space with the closest CLEC switch, and to connect each of the CLEC's switches to the others; and
- provide new local switches at each of the CLEC's current points of presence ("POPs") in the LATA.³

² As we note throughout this affidavit, a number of the significant flaws in the TM cannot be corrected using the current model.

³ BellSouth's most current FCC Ex Part filing, dated March 30, 1999, focuses exclusively on MCIWorldCom and continues to assume a single MCIWorldCom POP in Atlanta. We assume that TM is still deploying only five POPs for AT&T in Atlanta, even though AT&T has ten POPs in the Atlanta LATA.

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13. The TM includes average exchange and exchange access revenues provided by BellSouth, CLEC costs estimated by SPR, and estimated incremental revenue associated with interLATA toll services, which SPR claims would be synergistically generated by CLEC entry into local markets.

14. SPR claims that the TM demonstrates that competitive entry into the local exchange market would be economically viable *today* -- at least to some degree in the Atlanta LATA -- if CLECs deployed their own switches and purchased and combined UNEs provided by BellSouth for the local loop, transport, and other elements. Based on this showing -- which we demonstrate below to be seriously flawed -- SPR (and, presumably, BellSouth) claim that ILEC provision of the unbundled local switching element is not required for the emergence of effective competition; on this basis, they conclude *incorrectly* that provision of switching UNEs does not meet the "impair" test of section 251(d)(2) of the Telecommunications Act of 1996 ("1996 Act").⁴

15. BellSouth relies on the TM to support its claim that CLECs could profitably enter the local market today by providing their own switching capability, so that the failure to provide access to switching as an unbundled network element would not *impair* CLECs' ability to offer telecommunications services. BellSouth claims that the TM supports this contention by demonstrating the potential profitability of CLEC entry (specifically, entry by AT&T and/or

⁴ We understand that the Supreme Court, in *AT&T Corp. et al. v. Iowa Utilities Board et al.*, held that "Section 251(d)(2) requires the FCC to determine on a rational basis which network elements must be made available, taking into account the 1996 Act's objectives and giving some substance to the 'necessary' and 'impair' requirements." We also understand that the "necessary" standard applies only to proprietary elements. Although our experience indicates that local switches are not "proprietary" in the sense referenced in Section 251(d)(2), the TM and our review of the model do not address this issue.

MCIWorldCom) into the local exchange market in Atlanta. SPR claims that the Model is “intended to yield conservatively high costs, precisely to dispel concerns that it is overly optimistic.” (BellSouth February Ex Parte, p. 1). As we show below, however, these claims are not substantiated by the TM, because the model incorporates unreasonable assumptions, incorrect calculations, and inputs that are unrepresentative of the conditions that do or would exist.

16. Importantly, the TM recognizes that CLECs could *not* use the above-described network architecture to serve profitably the *majority* of the residential market. Even if one accepts *all* of the gross overstatements of potential profitability inherent in the model, the TM finds that only if CLECs were successful at surgically “targeting” the highest revenue deciles of customers (and affirmatively *denying* service to any less attractive customers) can a positive profitability story be generated. Thus, even taken on its own flawed terms, the TM demonstrates that the modeled network architecture would *preclude* competition for more than 50 percent of the Georgia market.⁵

⁵ SPR readily admits that CLECs could not profitably serve at least 70% of all residence customers. (See March 29 Description, page 13 “the CLEC would not merely have a lower return, but would actually lose money on the additional residential customers it serves.”) Moreover, without explanation, SPR also excludes large numbers of other business customers from its findings. It appears that these excluded business customers are primarily ESSX (Centrex) users, given that the SPR study reflects an assumption of 2.3 business lines per location and an average revenue per line amount much higher than ESSX service prices. In any event, SPR concludes that 1,776,656 access lines are potentially competitive on a statewide basis (30% x 2,328,020 residence lines plus 1,078,250 business lines). But there are at least 3,815,000 access lines in service in Georgia, based on December, 1996 data. Conservatively assuming SPR’s in-service data is of the same vintage, SPR thus concludes that its serving arrangement works for only about 47% of all lines.

17. The TM also includes a discussion of CLEC costs and revenues associated with “incremental” inter-LATA toll services, which SPR claims without explanation would be synergistically generated by the entry of certain CLECs into local markets. The practical effect of this *flawed* assumption is that the long-distance market would have to undergo unprecedented and unexplainable growth in order for CLECs to gain the substantial in-region long distance volume assumed by the TM at a time when BellSouth would likely enter the in-region long distance market and capture a non-trivial share of long distance usage.

III. THE TELCOMP® MODEL DOES NOT REALISTICALLY REPRESENT THE LOCAL ENTRY ENVIRONMENT A CLEC WOULD ENCOUNTER

A. Conceptual Problems: The TM Fails to Reflect Well-Known Dynamics of Competitive Markets.

18. The first problem with the TM’s theoretical framework is that it ignores known or predictable changes in revenues and costs that, in the real world, constitute a significant deterrent to CLEC entry. Specifically, the TM assumes that:

- CLECs will generate the *same* revenues per line as the incumbent, by apparently charging the same prices for exchange and exchange access services as BellSouth;
- despite the intense competitive focus of multiple carriers on the same precise group of high value customers hypothesized by SPR, local revenues per line from these customers *will remain constant* (in real terms) over the five-year study period used in the model;
- access revenues generated from customers in the Atlanta LATA will *remain at current levels*; and
- CLECs penetrating the market for local service will generate substantial *incremental* interexchange (“IXC”) revenues.

Each of these revenue assumptions is both logically false and extremely unrealistic, given the increasingly competitive environment that would be created by the widespread CLEC entry that the TM contemplates.

19. As a preliminary matter, unless the CLEC offers service innovations, and/or quality improvements, which are not apparent in the TM's underlying assumptions, they will have to undercut the incumbent's retail price just to encourage customers to change carriers.⁶ Thus, CLECs' initial revenues for basic service will be lower than BellSouth's revenues for comparable services. Indeed, the TM's "equal price" assumption is particularly problematic in Georgia because of the pricing scheme that BellSouth employs in its territory. Currently, BellSouth sets prices for basic service in inverse proportion to costs, *i.e.*, prices are *highest* in dense urban areas where costs per customer are *lowest*. Thus, for example, BellSouth's current rates for residential flat-rate service in Atlanta (including touch-tone) are 40 percent higher than rates for comparable service in more rural, higher-cost areas. Similarly, rates for business lines in Atlanta are almost double those in more rural, higher-cost areas. This pricing scheme is sustainable only in a market insulated from competition, and its continuance over the medium- to long-run cannot be relied upon by CLECs who are themselves seeking to create competition.

20. In addition, if the entry that the TM touts as profitable becomes a reality, a more competitive environment will be created. This will force rates to track underlying costs more closely – driving down the prices that BellSouth could charge and, in turn, the revenues that CLECs might earn to provide service in the most profitable, highly-populated areas of Georgia⁷

⁶ See Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, CC Docket No. 96-98, Comments of AT&T Corp., Exhibit D, Affidavit of R. Glenn Hubbard, William H. Lehr, and Robert D. Willig (filed May 26, 1999 ("Hubbard/Lehr/Willig")), ¶ 20, n.8. Moreover, CLECs' costs and cost structures are inherently higher than those of the ILEC. *Id.*, ¶¶ 20-23, 27-32.

⁷ BellSouth's prices for many customers are surely above TELRIC, because SPR contends that competitors can route customer traffic circuitously around the LATA and still be extremely profitable at BellSouth's current rates.

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(which will reduce overall revenue levels for local telephone service). It is highly unrealistic to assume, as the TM does, that BellSouth would stand pat were the loss of customers modeled by the TM actually to occur. Indeed, competition in the long distance industry demonstrated exactly the opposite behavior.

21. In short, SPR has constructed a model that seeks to capitalize on a short-run revenue phenomenon that exists in the transition from a monopoly environment to a (hopefully) more competitive environment (especially with Georgia's inverted rate structure), but which will not be sustainable as competition develops. Thus, the TM's assumptions are inconsistent with the competitive standard. SPR's failure to incorporate realistic estimates of local service revenues over its five-year study horizon renders the TM results completely unreliable due to grossly overstated potential profitability.

22. Furthermore, the TM assumes that LECs' access revenues will remain constant (in real terms) over its five-year study period. However, current regulatory conditions suggest that it is likely that access rate reform, or at least access rate reductions, will become a reality as local competition emerges. Indeed, the Commission's access reform regime assumes that the availability of unbundled network elements -- particularly switching -- will generate competition that will help to drive access rates down. In addition, when access rate reform occurs, universal service support will be provided only in the highest-cost areas. Thus, revenues available in Atlanta will decline as access revenues decrease, without an offset in matching USF support (which will be targeted to high-cost rural areas -- and not Atlanta).⁸

⁸ Even though local competition is just beginning in the Atlanta market, the state commission has already found the need to lower switched access charges. In this market, the level of access charges (for two ends) is currently ½ cent below current interstate access rates, and will fall to a full cent below current interstate rates by the end of the year. In an adjacent state, the level of

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23. Finally, the TM makes an unsupported assumption that CLECs such as AT&T and MCIWorldCom are likely to gain additional long distance business as entry into the local exchange market expands. As a threshold matter, SPR has provided no evidence to support this assumed linkage between the level of local service provided by an *individual* CLEC and increased access to long distance customers (nor has it provided any evidence to substantiate the *level* of additional access to long-distance services that the model assumes).⁹ In particular, SPR has provided absolutely no evidence that either AT&T or MCIWorldCom would be able to experience the significant gains in IXC market share contemplated by the model as a result of their entry into the local exchange market.¹⁰ More fundamentally, if *several* CLECs enter a local market (as a fully competitive market would assume), *each* of them cannot be hypothesized to *gain* IXC market share – as TM does. In fact, such a result is nonsensical. Furthermore, if the market becomes competitive, as the TM assumes, and BellSouth enters the long-distance market, this nonsensical assumption becomes absurd.

24. Another conceptual problem with the TM is that it fails to consider that CLECs will not be able to provide their own local service at cost levels as low as those experienced by BellSouth. Hubbard/Lehr/Willig Aff. ¶¶ 20-23, 27-32. As a result, even if new entrants were

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intrastate access charges will fall to 1.5 cents by the end of next year, providing additional evidence that CLECs cannot depend on current levels of access charges in the future.

⁹ While it is certainly true that an RBOC's entry into the interLATA market will increase *its* market share (from zero), there is no basis to assume significant increases in *existing* IXCs' interLATA market shares due to their entry into the local market.

¹⁰ The SPR assumption suggests that once BellSouth can provide interchange service, it will take the lion's share of the IXC market (because it will serve 95% of local customers). If so, competitive entry into the local market is likely to cost AT&T and MCIWorldCom substantial
(continued . . .)

able to provide service profitably using the TM architecture and *existing* rate levels, as BellSouth seeks to prove, forcing CLECs to self-provision switching would place CLECs at a competitive disadvantage as competition drives rates toward TELRIC. The competitive standard should benefit the consumer, not act in a way that serves to insulate incumbents from effective competition. But by ignoring the mandates of the 1996 Act and the FCC's implementing orders and guidelines (which require ILECs to provide and price UNEs in a manner that permits CLECs to share equally in the economies of scale enjoyed by the ILECs), the TM developers create a situation in which CLECs profits will eventually be reduced to zero at rates that will remain profitable for BellSouth.¹¹

B. The Model Does Not Reflect A CLEC's Need To Provide All Of The Services A Customer Desires

25. The architecture proposed by SPR assumes the provision of the most basic analog voice grade services, but it fails to consider how new entrants will be provided DSL configurations, which cannot be provisioned over long distances. ADSL and other DSL configurations provide significant new service capabilities that profitable customers are likely to want. The model also fails to address service quality impairments that would be caused by the analog-to-digital conversions implicit in the architecture assumed by SPR for the TM.

C. The TM's Results Are Refuted By Actual Market Operation

26. As a result of these and other shortcomings, the TM fails by a wide margin to model realistic CLEC entry scenarios. The model developers claim that AT&T or

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IXC market share. Thus, the "conservative" approach (from AT&T or MCI's perspective) would be to leave IXC revenues unchanged.

¹¹ This concern is exacerbated by SPR's suggestion that UNE prices in Georgia may exceed TELRIC.

MCIWorldCom could generate extremely high rates of return on investment by entering the local market in Atlanta. Actual experience, however, contradicts this overly-optimistic view. None of the forty-four CLECs certified to operate in Georgia have entered on the across-the-board basis that is assumed in the TM, and most of those who have tried to enter operate at a loss (offering BellSouth resold services). Indeed, BellSouth's own estimates show that, when resold lines are excluded, CLECs provide fewer than 20,000 of the nearly 4 million local service lines in Georgia, *i.e.*, fewer than one-half of one percent of the lines provided by BellSouth.

27. Based on the lack of actual CLEC entry in the Georgia market, the reality is that only a small portion of the local exchange market is even potentially competitive for CLECs that provide their own switches. Moreover, the inability of any competitive local service provider to capture a significant portion of the local exchange market prevents them from benefiting from the economies of scale and scope that BellSouth enjoys. As a result, CLECs remain unprofitable, even after several years of attempting to serve the local exchange market by targeting only the most profitable customers.¹² The hard facts of actual market operation point to the inadequacy of the TM.

28. In its documentation, SPR concludes (erroneously, given the facts of local competition) the "[e]conomic reality is that there is *today* no meaningful economic barrier to

¹² Public financial disclosures available for CLEC holding companies certified to do business in Georgia also contradict BellSouth's claims and TM's computation of prospective profitability for Georgia CLECs. We have examined SEC Forms 10-Q, 10-K and other publicly-released financial information available for the CLEC holding companies certified to offer local exchange service by the Georgia Public Service Commission. Only three of these companies reported profits in *either* 1997 or 1998, and *none* reported profits in *both* 1997 and 1998. While we recognize that these companies are not perfectly analogous to the CLECs envisioned by the TM, the fact that none of them are consistently profitable is significant.

local competition in this market,” and draws the following conclusion, based upon the outputs of its flawed model.

If one seeks an explanation for the failure of IXC entry to occur, one must look elsewhere because the IXC’s failure cannot be accounted for in terms of economic barriers to competition. To the contrary, ample rewards are apparently available. We would respectfully suggest that IXC failures primarily reflect the loss of protection from RBOC competition their entry into local markets would trigger, as well as strategically motivated attempts to leverage their entry decisions in the regulatory arena to extract even more favorable terms than those *already available*. (February Ex Parte, pp. 11-12)

29. In contrast to SPR’s counterfactual conclusion, we believe that when a model generates results that are as far out-of-line with reality as are those generated by the TM -- and particularly when “non-IXC” CLECs have not been able to find a way to profitably serve significant numbers of customers using the architecture described in the TM -- it is much more likely that something is fundamentally wrong with the model, not with reality. The long-distance market already is subject to intense competition. As a result, the RBOCs have much more to lose from “the loss of protection” cited by SPR than do the IXCs, because it is the RBOCs that operate in markets that historically have been insulated from widespread competition. As we show below, however, the facts are that the TM grossly overstates the profitability of entering the local service market, even in the Atlanta LATA. When even a few of the TM’s significant deficiencies are corrected, we demonstrate that existing UNE rates in Atlanta *do not* permit broad-based entry. Thus, lack of the unbundled the local switching element constitutes a significant and “meaningful economic barrier to local competition in this market,” and in others.

30. Similarly, BellSouth states (February Ex Parte, p. 3), that “there may be cases where the CLEC could reduce costs [used in the TM] by providing its own facilities or obtaining them from facilities-based CLECs, which may cost less than facilities obtained from the ILEC at

UNE rates.” Such statements are mere conjecture on the part of BellSouth, and Drs. Hubbard, Lehr and Willig clearly refute this unsubstantiated assertion. Hubbard/Lehr/Willig Aff. ¶¶ 19-25. However, if SPR’s conclusion were correct as a general rule, then the necessary corollary is that UNE rates in Georgia are not based on TELRIC. By SPR’s own admission, the BellSouth UNE rates would not reflect the most efficient, forward-looking cost of providing the network element -- if they did, CLECs would not be able to provide the element(s) more cheaply.

D. The TM Has Been in Constant Flux But Continues to Understate CLEC Costs and Overstate CLEC Revenues

31. A significant obstacle to reviewing the TM is that it has been in a constant state of flux. There already have been three different versions of the model released since it was originally filed in mid-February -- with the purpose of each new version to apparently correct some of the errors in the preceding version. Curiously, despite the fact that each of these versions differs radically in model structure and input assumptions, the net effect of these adjustments on estimated CLEC entrant internal rates of return is small. This is because in each revision, the TM continues to understate the cost elements that it does include and it excludes altogether many of the costs that would be required to enter local markets. At the same time, the TM continues to overstate revenues that a CLEC would receive when it enters local markets. Obviously, when a model understates a carrier’s prospective costs and overstates its prospective revenues, it substantially overstates the internal rates of return the carrier can expect to achieve.

E. The TM Relies On Unsupported Data

32. SPR has provided minimal, if any, detail supporting other key inputs into the TM, including assumptions about required sales and general and administrative (“SG&A”), startup, and customer acquisition expenses. Documentation of these inputs is critical in evaluating the

TM, as evidenced by changes made between versions 1.1 and 1.2. While version 1.1 included *no* start-up costs at all, in version 1.2, SPR appropriately added some start-up costs to the model (a change carried forward into version 1.3). This should have had the effect of reducing substantially the calculated rates of return. Instead, however, this change was accompanied by a seemingly arbitrary and largely off-setting reduction in the assumed SG&A percentage from 30 percent (version 1.1) to 25 percent (versions 1.2 and 1.3). This had the effect of re-establishing the calculated internal rates of return to levels similar to those reflected in the earlier version of the TM. This downward adjustment to the SG&A percentage was made despite statements by SPR that "30 percent of revenues [is] a [SG&A] ratio which is typical of communications carriers." (February Ex Parte, p. 10 "SPR Documentation").

33. Public financial disclosures filed by CLECs certified to do business in Georgia contradict BellSouth's original SG&A assumption, and clearly are inconsistent with reducing this ratio to the 25 percent currently being used in the model. As can be seen in Attachment 3, an essential contributor to the financial losses of Georgia-certified CLECs is the significant SG&A expense associated with these entrants. In fact, the *lowest* SG&A-to-revenue ratio for any of these companies is 30 percent. The most useful figure is the *average* SG&A-to-revenue ratio for new entrants into the local service market, which is approximately 55 percent (more than twice as high as the 25 percent ratio currently assumed in the TM). Moreover, start-up CLECs often find that this ratio *increases* in subsequent years, particularly early in a CLEC's existence. For example, in its SEC Form 10-Q filing for the quarter ending September 30, 1998, MGC Communications states: "[a]s the company expands into new markets, both costs of operations and selling, general and administrative costs are expected to increase as many of the fixed costs of providing service in new markets are incurred before significant revenue can be generated

from those markets. In addition, significant levels of marketing activity are anticipated in new markets in order for the Company to build its initial base of customers.”¹³

F. Use of the Atlanta LATA Does Not Provide a Realistic Test of the TM

34. SPR’s use of the Atlanta LATA as the “test case” for the model is not “conservative.” Neither SPR nor BellSouth has provided any evidence to establish that Atlanta is representative of the circumstances that could face CLECs in the rest of Georgia, elsewhere in BellSouth’s territory, or in the nation generally. In fact, Atlanta -- or any other large metropolitan area -- cannot be viewed as typical of the entire country, or even an entire RBOC service area. Such areas have unusually high concentrations of customers -- particularly business customers with high usage -- and thus reflect conditions most conducive for potential competitive entry. Metropolitan serving areas are not representative, however, of the overall market for local services. The best one can conclude is if competition is not viable in metropolitan areas, it will not be viable elsewhere.¹⁴

¹³ Similarly, ITC-Delta Con’s SEC Form 10-K Reports for 1997 and 1998 reveal that its revenues increased, between 1997 and 1998, from \$114.6 million to \$171.8 million, while its SG&A expenses increased from \$38.3 million to \$64.9 million. This caused an increase in the SG&A expense ratio from 33 percent to 38 percent. At pages 55 and 56 of its 1998 SEC Form 10-K, ITC-Delta Con reported that the increase in its SG&A ratio is due to the addition of sales, information system, and provisioning personnel; geographic expansion; and expansion of local service offering. Based on its SEC Form 10-K Reports, Level 3’s revenues increased over the same period from \$332 million to \$392 million, while its SG&A expense increased from \$106 million to \$332 million, increasing its SG&A ratio from 32 percent to 85 percent. Level 3 reports that its increase in SG&A was the result of implementing its business plan including an increase in communications and information services employees from approximately 1,000 to 2,200. Level 3’s 1998 SEC Form 10-K.

¹⁴ The FCC’s December, 1998 *Local Competition Report* demonstrates how unrepresentative the Atlanta LATA is. Although the report does not distinguish line counts by LATA within a state, it does report on the number of local competitors that hold one or more numbering codes within a LATA. The numbering codes are the unique NNXs assigned to a CLEC that wishes to offer local service. For the five LATAs in Georgia, the Atlanta LATA has 21 local competitors with

(continued . . .)

35. As noted above, SPR itself already admits that CLEC entry using its proposed network architecture would be uneconomic for over 50% of all Atlanta lines -- even if one accepted all of the TM's faulty assumptions. Correcting only a few of the faulty assumptions -- which we do below -- demonstrates that entry in Atlanta would be decidedly unprofitable for a large majority of customers. This, in turn, demonstrates that switch-based competitive entry in the rest of the Georgia and, by extrapolation, most of the rest of BellSouth territory and the nation would not be economic.

G. The TM Fails To Treat Revenues and Expenses Consistently

36. The TM also fails to provide an adequate correlation between costs and revenues.¹⁵ As a threshold matter, this makes it impossible to determine, with certainty, that revenues are included only for services for which costs are developed. But this flaw manifests itself in other ways, as well. For example, the model permits the user to assume that a CLEC would be able to target only high-revenue (not average) residential customers, but it ignores the logical consequent that high-revenue customers are also high-usage customers. Instead, the TM assumes these high-revenue customers would generate only *average* usage (and, thus, require only an average level of interoffice transport and costs to serve them). Thus, the "targeting" feature of the TM focuses on high-revenue customers, but fails to increase the cost per line to

(... continued)

number codes, the highest number of local competitors in any of BellSouth's five Georgia LATAs. The second highest LATA in Georgia, August, has 4 local competitors with number codes. In fact, the 21 local competitors in the Atlanta Georgia LATA is far higher than the number of competitors found in any other LATA in BellSouth territory. The Orlando, FL LATA served by BellSouth has the second highest number of local competitors -- there are 15 local competitors holding number codes.

¹⁵ The model does, however, include interexchange revenues and costs (and excludes access revenues) only when the user enables the interLATA toll analysis.

reflect the higher level of usage that would be associated with these customers. This fundamental disconnect between the revenue assumptions and the cost assumptions has the effect of overstating expected rates of return.

H. Conclusion: The TM Model Does Not – and Cannot -- Support Claims That CLECs' Ability to Compete Would Not Be Impaired if They Were Denied Access to Unbundled Local Switching

37. The TM developed by SPR is unreliable and does not support a claim that CLECs could profitably enter the local market on a broad basis if they were denied access to local switching as an unbundled network element, because:

- it fails to realistically and reliably incorporate *existing* revenues and line counts in the Atlanta LATA;
- it ignores the effects that competitive pressures would have on the current rate structure (which exhibits higher rates in lower-cost areas, and vice versa);
- it ignores the effects that competitive pressures would have on the *future* level of local service and access revenues;
- it assumes new entrants would be able to target only high-contribution customers;¹⁶
- it ignores obvious revenue/cost linkages; and
- it applies SG&A ratios far below those that are being experienced by real-world CLEC entrants.

These fundamental defects in the model cut across virtually every model computation, and many of them cannot be effectively remedied. Any one of these defects alone would call the TM's

¹⁶ In addition, the TM assumes that CLECs would be able to collocate in each of BellSouth's 108 central offices in Atlanta. However, on March 12, 1999, BellSouth notified CLECs that there were twelve central offices in Georgia (at least ten of which are in the Atlanta LATA) where "space is unavailable for physical collocation." Based on the Telecomp model data, these twelve central offices serve approximately 17 percent of all business and residential lines in Atlanta. If, in fact, the collocation space required by the architecture employed in the TM is unavailable, the TM becomes moot, because it assumes a configuration that is not realistic for nearly 20 percent of Atlanta residential and business customers.

reliability into serious question. The combined effect of all of these defects -- each of which tends to overstate revenues and/or understate costs -- is to render the TM completely useless for its intended purpose.

IV. THE TM CONTAINS LOGICAL ERRORS THAT CONTRIBUTE TO ITS INCORRECT CONCLUSIONS

38. Beyond the conceptual deficiencies identified above, the TM's various versions contain numerous errors in their internal calculations and in the way in which the inputs are applied in the model's calculations. Some of these problems include:

- the timing assumed by the TM for various cash flows is wrong, thereby increasing the internal rates of return calculated by the model;
- the model generates expenses in a fashion that does not adequately reflect the level of expenses that a new entrant would incur, or the timing of these expenses;
- the TM improperly treats all undepreciated plant, as of the end of Year 5, as a lump-sum positive (*i.e.*, revenue) cash flow, which clearly is incorrect;
- the model improperly treats certain operating expenses as invested capital expenditures and, therefore, attempts to recoup the portion of these "capitalized" expenses that is undepreciated at the end of the five-year time horizon;
- the TM incorrectly calculates depreciation by multiplying depreciation rates by *net* plant, rather than *gross* plant, which has the effect of understating annual depreciation in every year (but the first), thereby overstating the "terminal value" applied as a positive cash flow in the model;
- the TM does not include taxes, and thus fails to accurately reflect real cash flows and overstates the true internal rate of return; and
- the most recent version of the TM (version 1.3) has modified the model's code and thereby introduced additional errors into the model's algorithms.

Each of these problems is discussed below.

39. Cash Flows. The relative timing of expense and revenue cash flows in the TM is incorrect. For example, the model assumes that the CLECs' "startup costs" occur in the middle